the percentage saturation of hemoglobin begins to fall precipitously below an arterial oxygen pressure (Pao_2) of 60 mm of mercury. Therefore, a patient may be considered to manifest refractory hypoxemia if the Pao_2 remains below 60 mm of mercury while breathing 60 percent FIO_2; in this situation, PEEP should be considered.

PEEP is felt to improve gas exchange by expanding collapsed alveoli, and there is in each patient a level of PEEP which will prove effective in accomplishing this end. PEEP, therefore, should be increased incrementally, usually by steps of 5 cm of water, monitoring arterial gases until there is an increase in Pao_2, or until clinical deterioration occurs. An optimal level of PEEP is usually associated with a dramatic improvement of the Pao_2 as well as sequential improvement in the pulmonary compliance which can be measured at the bedside.

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The Health Hazard Appraisal

OVER THE PAST 15 years, the Health Hazard Appraisal has developed from an idea held by Dr. Jack Hall and other clinicians at Methodist Hospital in Indianapolis to a recognized and accepted tool for use by primary care physicians in their practices. The Health Hazard Appraisal uses data on mortality to assist the physician and patient in identifying those factors in a patient's life-style, such as health habits, which have a predictable negative influence on his or her expected length of life. By identifying these risk factors a physician is able to counsel a patient about their predicted effects. In addition, the Health Hazard Appraisal is able to identify and suggest certain achievable changes in the patient's habits to effect a positive change in his or her predicted risk of death or, alternatively, expected length of life.

The Health Hazard Appraisal is initiated by a physician by the completion of a data sheet. This data sheet couples a self-administered history by the patient with certain objective information supplied by the physician, such as blood pressure, weight and level of serum cholesterol. This information is then mailed to one of the Health Hazard Appraisal Centers which submits it to computer analysis. A complete report is returned to the physician for his or her use. The cost varies, depending on which referral center is used, but approximates $10 to $20 per appraisal.

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Treating Homosexual Patients

THERE IS A growing tendency to recognize a special galaxy of knowledge necessary for treating homosexual patients. Homosexual medicine is an important new area recognizing that knowledge of homosexual men and women and their sexual practices and eventual diseases is necessary to properly serve a patient population that is emerging from "the closet" and demanding a more candid relationship with their physicians. So, there is an importance now of being aware of homosexual patients and their "families"—whether a group of friends or a sexually monogamous lover of many years.

Homosexual men and women are as diverse as the population in general—nevertheless, the difference in their sexual preference results in greater vulnerability to sexually transmitted diseases.

Hepatitis B is fast becoming a venereal infection with relatively high morbidity rates and without effective treatments. The disease, which used to be thought of as being caused by hypodermic punctures or blood transfusions, is now more frequently found to be caused by sexual contact. In some studies, up to 90 percent of hepatitis diagnosed in the homosexual population is positive for hepatitis-associated antigens. Also of note is the incidence of hepatitis B surface antibody that is significantly higher in this population, up to 15 percent in some studies.

There has been increasing knowledge gained on another disease related to this population: condylomata accuminata (venereal warts). This is a disease with no effective single therapy except patience and persistence.

The best single help for homosexual patients is education and, in particular, alerting them to an awareness of their bodies, especially self-examinations for early detection of condylomata.

One hallmark of effective condylomata treatment is discovery and early eradication, usually by fulguration. Early detection can be accomplished by frequent, if not daily, self-administered

rectal examinations while showering. In the author's practice, this suggestion to homosexual patients has proved to be a highly effective means of accurate discovery of the existence and location of condylomata, or of a recurrence following original treatment.

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The Use of the Oxytocin Challenge Test in High-Risk Pregnancies

THE OXYTOCIN CHALLENGE TEST (OCT; also called the contraction stress test) is an attempt to duplicate the stresses of labor by inducing contractions and observing the fetal heart response. This test has been widely accepted in the United States as a useful clinical method of assessing fetal well-being in the hazardous intrauterine environment encountered in certain high-risk pregnancies.

The test consists of intravenous administration of oxytocin by an infusion pump sufficient to produce three contractions during a ten-minute interval, and the simultaneous recording of fetal heart rate and uterine contractions using an electronic fetal monitor. When clinically indicated, the test can be carried out as early as in the 32nd week. The test can be done without oxytocin when contractions are occurring spontaneously.

This test is contraindicated in cases of suspected labor before term, vaginal bleeding and cervical incompetence. Relative contraindications include previous cesarean sections or multiple gestation when a premature fetus would compound the survival risk factor.

A positive test result is determined by a fetal monitor recording of late or variable decelerations of fetal heart rate at, or just beyond, a uterine contraction. The pattern should be repeated with most subsequent uterine contractions or with each of three contractions with an interpretable heart rate during a ten-minute period. Positive findings, if not acted on, are associated with a high incidence of fetal death or fetal distress.

A negative test finding is clearly the greatest benefit of the OCT and is observed in about 90 percent of cases. A negative response is interpreted when uterine contractions occur at a frequency of three in ten minutes with no decelerations of fetal heart rate. To maintain surveillance on the uterofetal-placenta unit, a negative test may be repeated at intervals of a week or less.

A suspicious result is shown by definite, but inconsistent, late decelerations failing to persist with most uterine contractions. After a suspicious test result, it is advisable to repeat the test in 24 hours.

The test is considered unsatisfactory if the quality of the recording is technically poor enough to prevent determining whether decelerations are present, or if there are fewer than three contractions in ten minutes.

The test requires 90 to 120 minutes and should be done with meticulous care by trained nursing and medical personnel.

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Parathyroid Hormone and Calcium Abnormalities

THE GREATER AVAILABILITY of laboratory analyses of chemical fractions of the blood of patients seen by family physicians has made it possible to diagnose hypercalcemia in patients who may not have presented with the clinical features of primary hyperparathyroidism. The parathyroid hormone (PTH) assay is also available and may be added to the battery of tests used in the evaluation of clinical problems.

The specificity of the parathyroid hormone analysis is sufficient to recognize fragments and intact PTH. However, in some 15 percent to 20 percent of patients there is sufficient overlap, in which it is possible to have high PTH production without primary hypothyroid adenoma, parathyroid hyperplasia or parathyroid carcinoma. The source of the ectopic production of the parathyroid hormone in these cases is usually a malignant lesion. The changes noted in hyperparathyroidism, notably hypercalcemia, hypophosphatemia and elevated levels of alkaline phosphatase, as well as the clinical symptoms of debilitation or constitutional signs of a malignant condition, may be extremely important in differentiating the